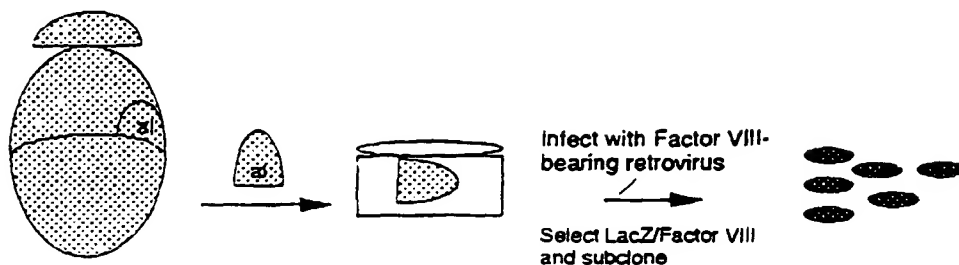


FIG. 1

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1. Isolate LacZ-expressing allantois cells and infect with retrovirus carrying Factor VIII



2. Inject LacZ-Factor VIII-expressing allantois cells into Factor VIII-defective embryos

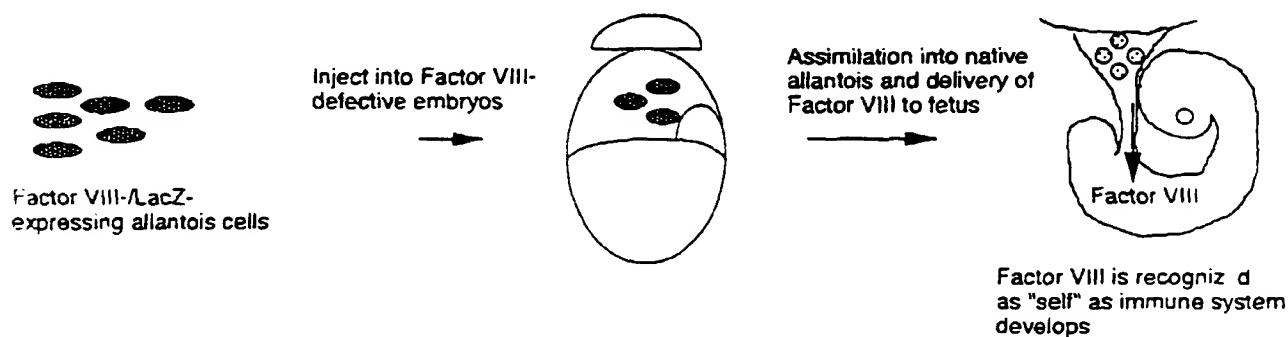


FIG. 2



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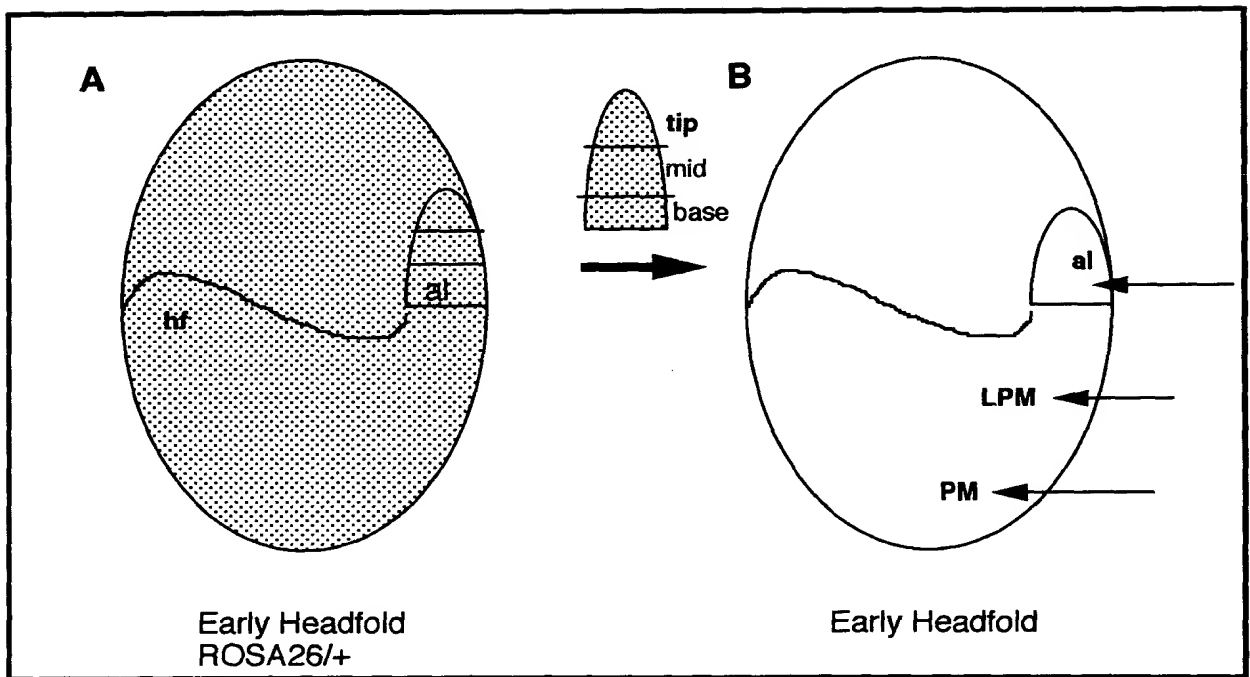
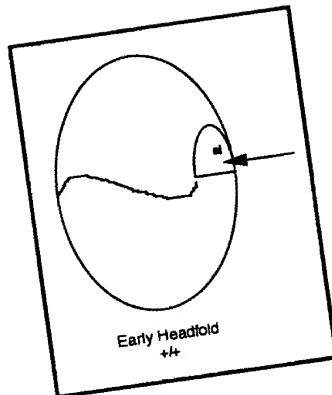


FIG. 4

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Summary of Grafts Into the Base of the Allantoleis			
Region Grafted→ Region Colonized ↓	Base	Mid-Portion	Tip
Base	+	+	0
Mid-Region			
Distal Third	+	+	
Vitelline Omphalomes Artery	1	2	0
No. Chimeras with Unincorporated Donor Cells	Headfold	Headfold, 3-5	Headfold, 3
Initial Stage of Host Embryos	10-16	8-16	11-16
Final Number Somite Pairs	5652	9715	2501
Total Number of Incorporated Transgenic Cells	21 (60.0%)	16 (76.2%)	12 (85.7%)

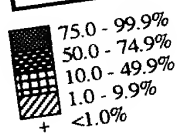
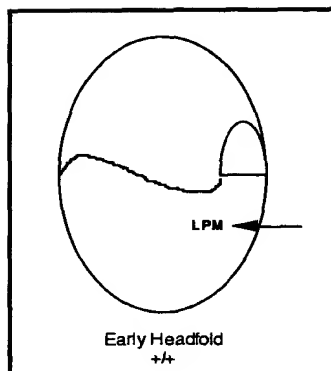


FIG. 5



Summary of Grafts into the Primitive Streak at the Level of Prospective Lateral Plate Mesoderm				
	Orthotopic: Prospective Lateral Plate Mesoderm	Heterotopic: Allantois to Prospective Lateral Plate Mesoderm		
Tissue Grafted→ Tissue Colonized↓	LPM	Base	Mid-Portion	Tip
Lateral Plate Mesoderm	75.0 - 99.9%	+		
Intermediate Mesoderm	75.0 - 99.9%			
Somites	75.0 - 99.9%			
Neural Tube	75.0 - 99.9%			
Capillaries	75.0 - 99.9%			
Endoderm of Future Coelom	75.0 - 99.9%	10.0 - 49.9%		
Surface Ectoderm	75.0 - 99.9%	+		
Endothelium of Intersegmental Vessels	75.0 - 99.9%	75.0 - 99.9%	75.0 - 99.9%	75.0 - 99.9%
Endothelium of Aorta		75.0 - 99.9%	75.0 - 99.9%	75.0 - 99.9%
Mesenchyme Adj to Dorsal Aorta		75.0 - 99.9%	75.0 - 99.9%	75.0 - 99.9%
Umbilical Endothelium at All/Am Junction		+		
No. Chimeras with Unincorporated Donor Cells		0	5	2
Initial Stage of Host Embryo	Headfold, 2-3	Headfold	Headfold, 3,4	Headfold
Final No. Somite Pairs	11-15	10-12	10-16	11-16
Total Number of Incorporated Transgenic Cells	1925	2789	2769	995
Number Chimeras (% of Total Injected)	10 (52.6%)	4 (23.5%)	12 (54.4%)	5 (27.8%)

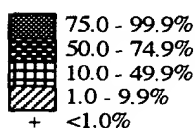
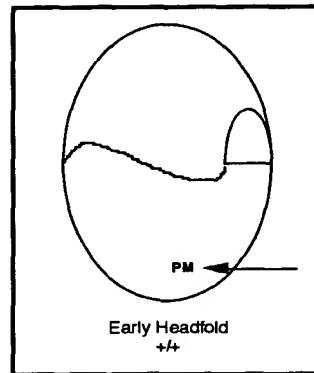


FIG. 6



Summary of Transplants into the Primitive Streak at the Level of Prospective Paraxial Mesoderm				
	Orthotopic: Prospective Paraxial Mesoderm	Heterotopic: Allantois to Prospective Paraxial Mesoderm		
Tissue Grafted→ Tissue Colonized↓	PM	Base	Mid-Portion	Tip
Somites	75.0 - 99.9%			
Pre-Somitic Mesoderm	50.0 - 74.9%			
Capillaries (in neurectoderm)	10.0 - 49.9%			
Neural Tube	1.0 - 9.9%			
Notochordal Plate	1.0 - 9.9%			
Surface Ectoderm	+			
Endothelium of Intersegmental Vessels		1.0 - 9.9%	10.0 - 49.9%	
Endothelium of Dorsal Aorta		10.0 - 49.9%	50.0 - 74.9%	75.0 - 99.9%
Mesenchyme Adj to Dorsal Aorta		10.0 - 49.9%	50.0 - 74.9%	75.0 - 99.9%
No. Chimeras with Unincorporated Donor Cells	1	0	4	1
Initial Stage of Host Embryos	Headfold, 3-4	Headfold	Headfold, 1	Headfold
Final Number Somite Pairs	10-14	9-11	8-13	11-13
Total Number of Incorporated Transgenic Cells	1021	136	1060	340
Number Chimeras (% Total Injected)	7 (33.3%)	2 (10.5%)	6 (28.6%)	4 (30.8%)

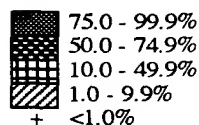
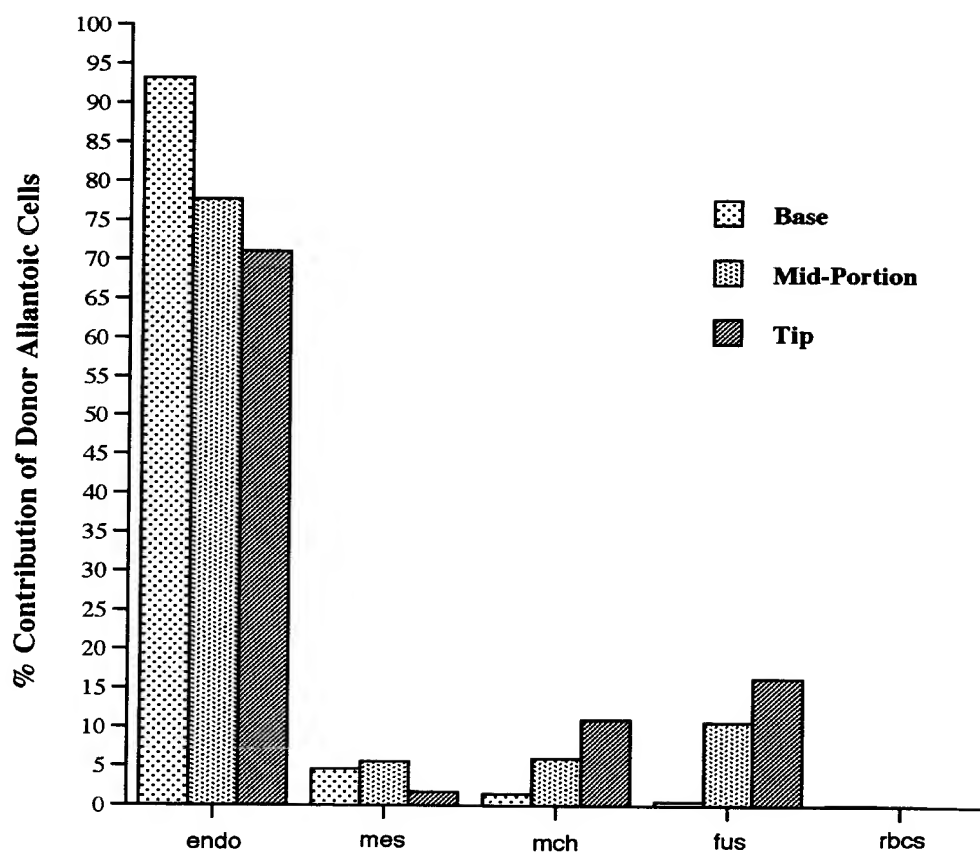


FIG. 7

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Host Allantoic Cell Types Colonized by Grafted Donor Allantoic Cells

FIG. 8

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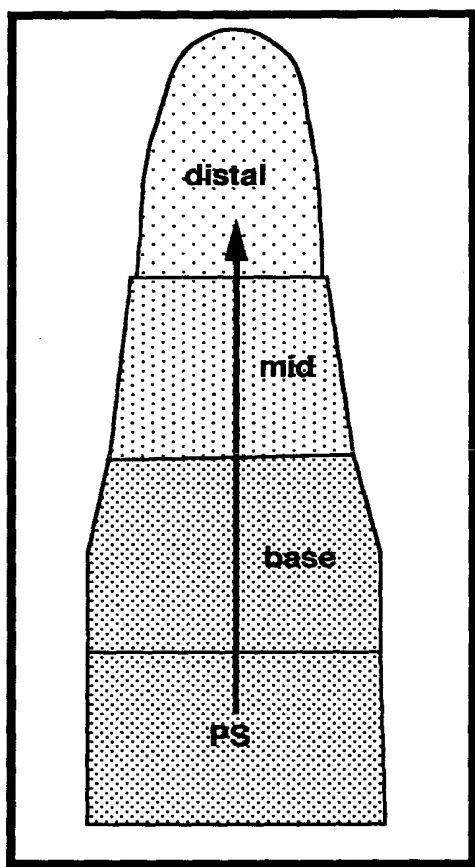


FIG. 9

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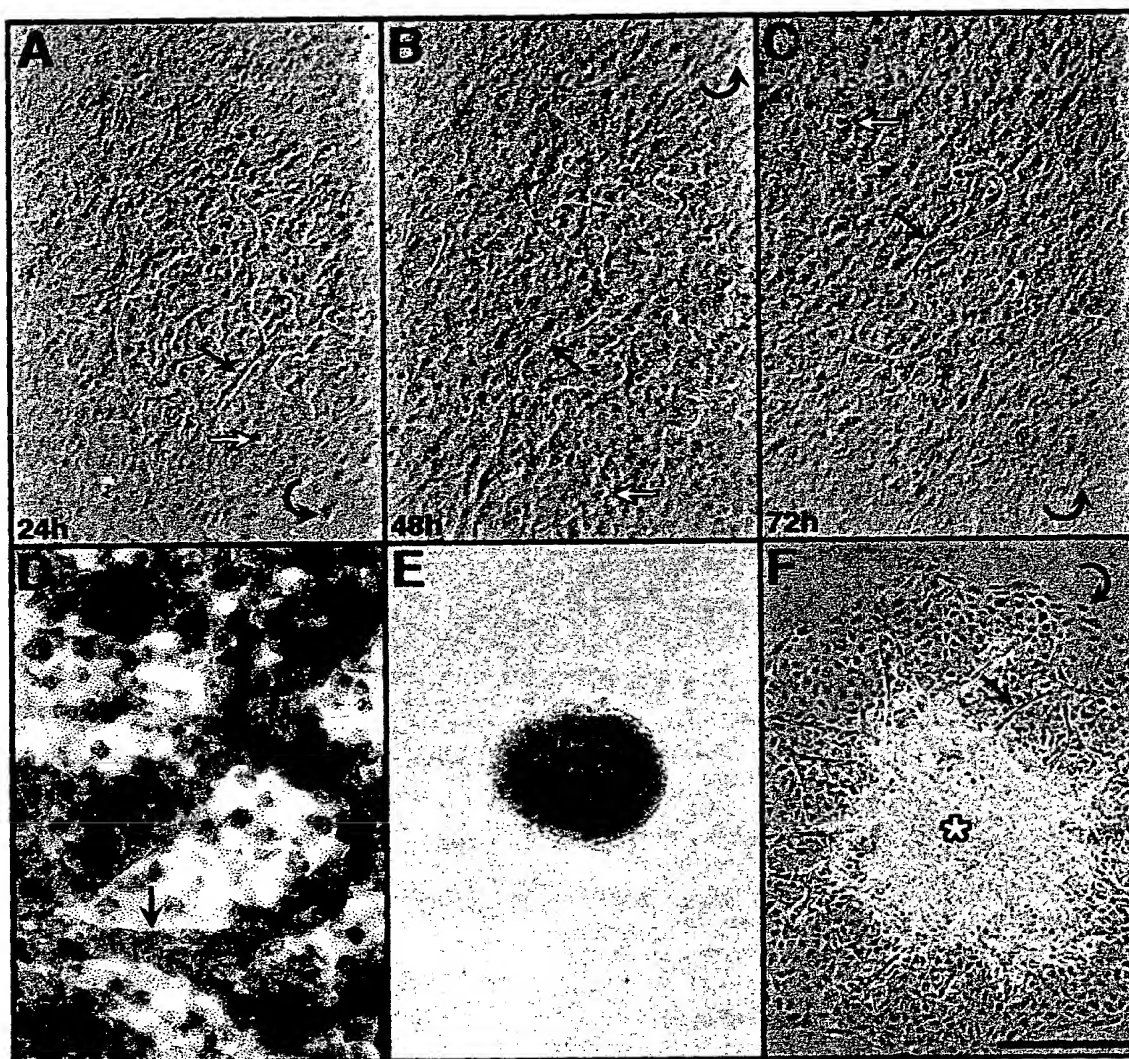


FIG. 10

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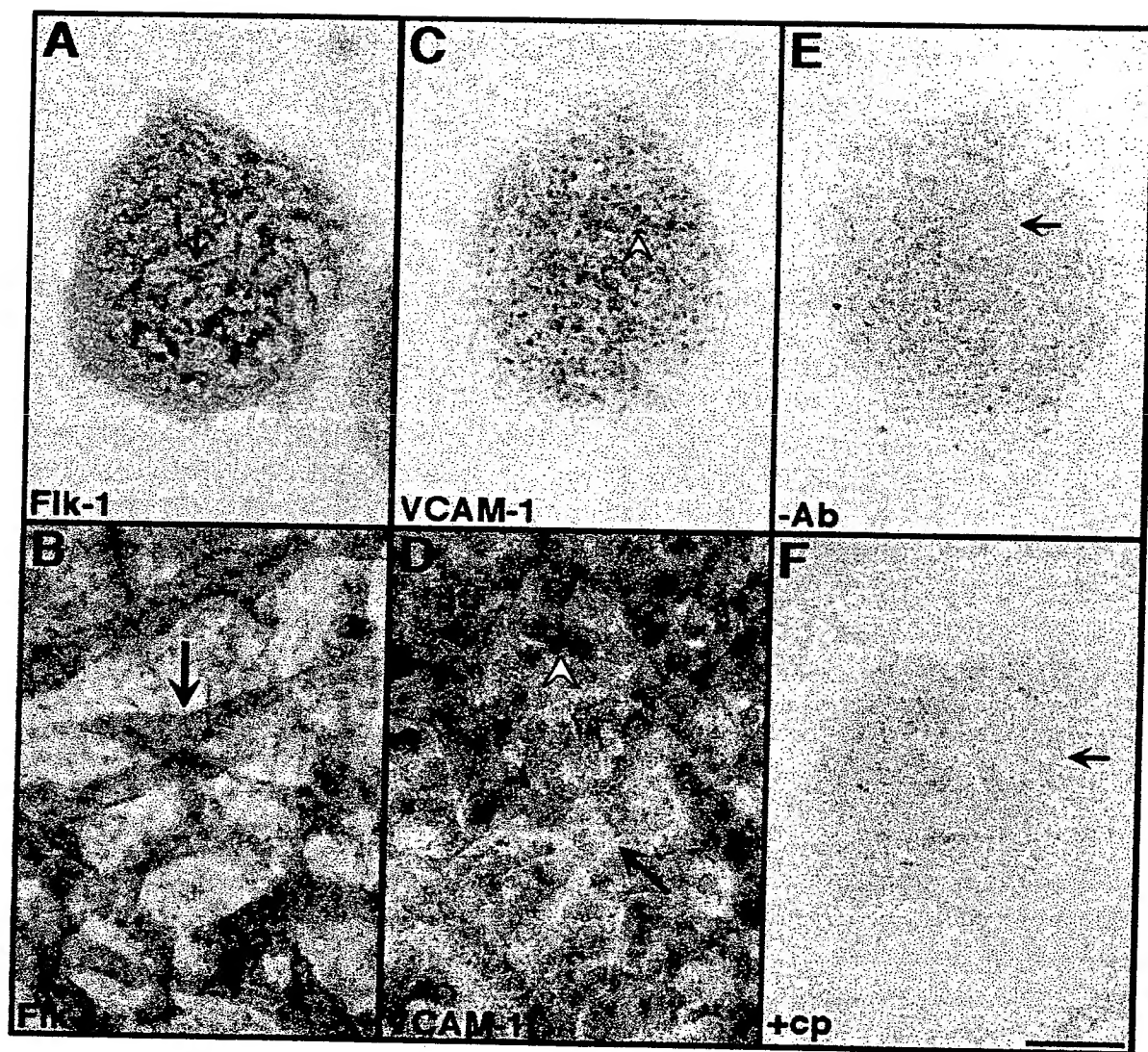


FIG. 11

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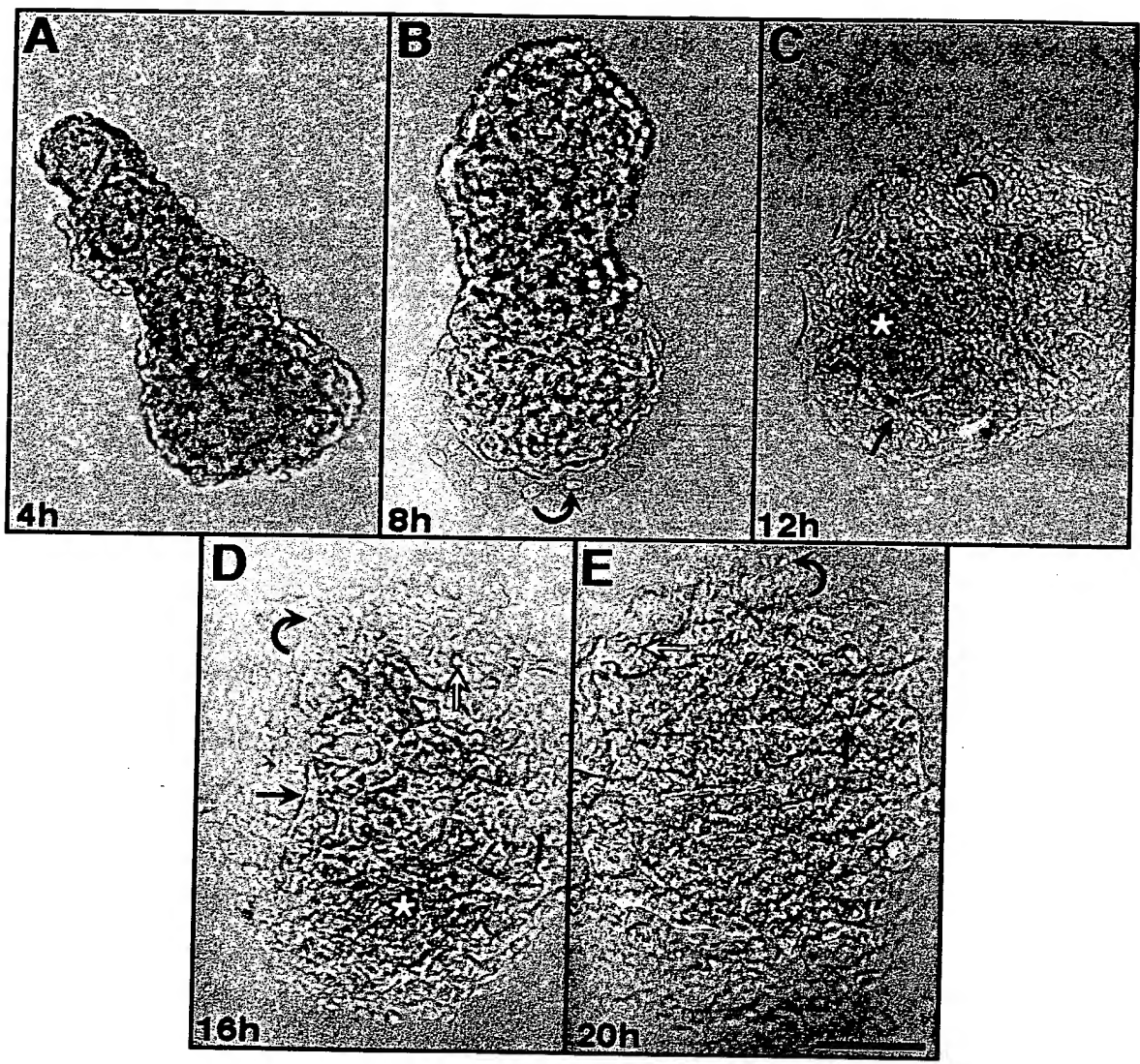


FIG. 12

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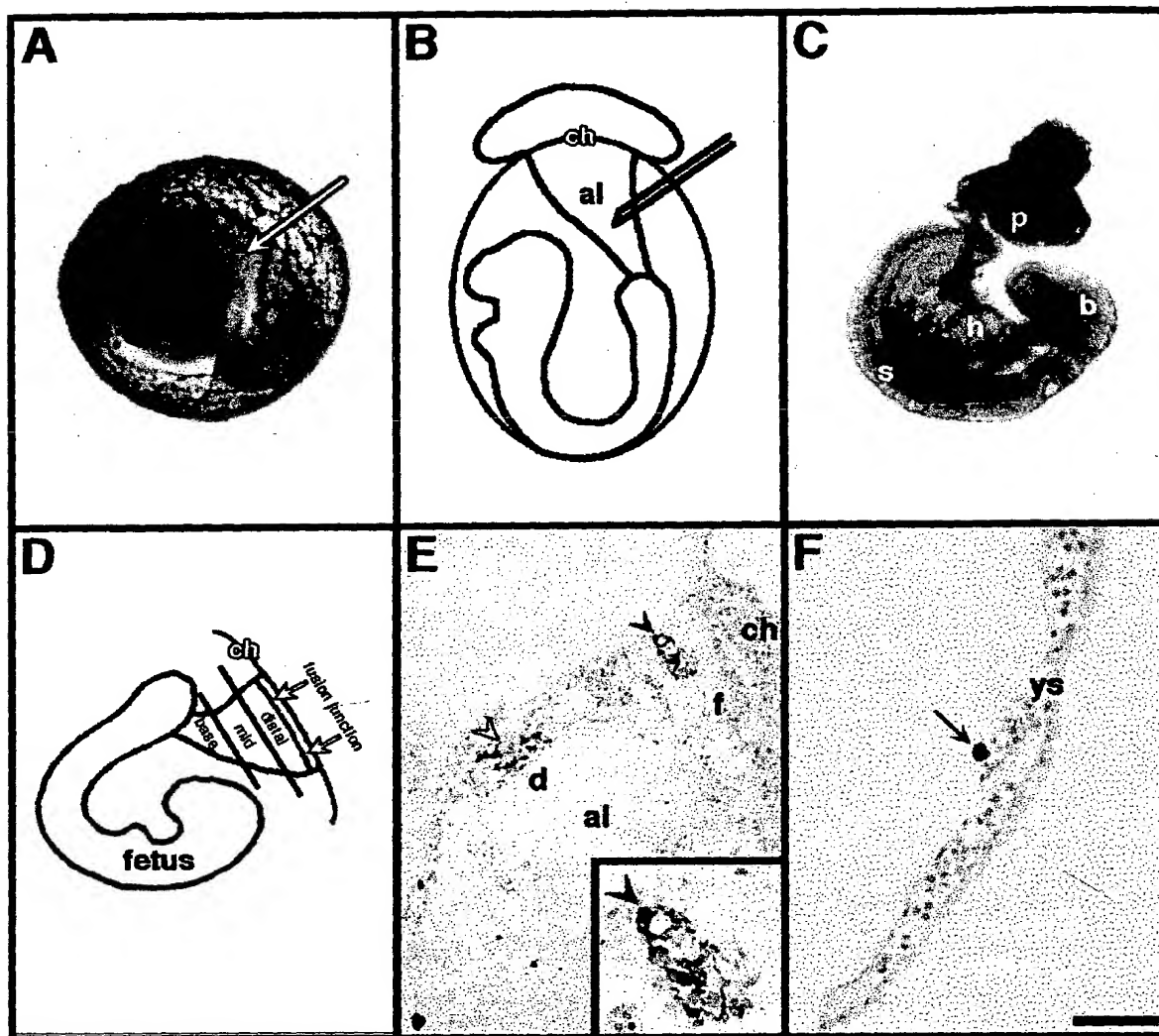


FIG. 13

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BY 2000-10-13
EXPIRATION

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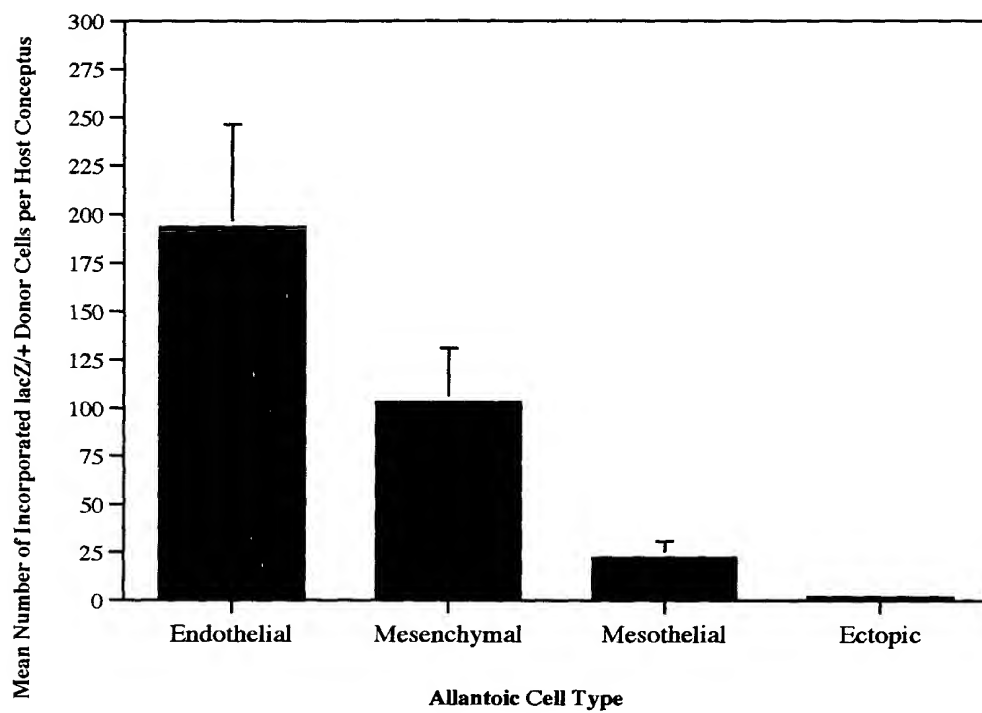


FIG. 14

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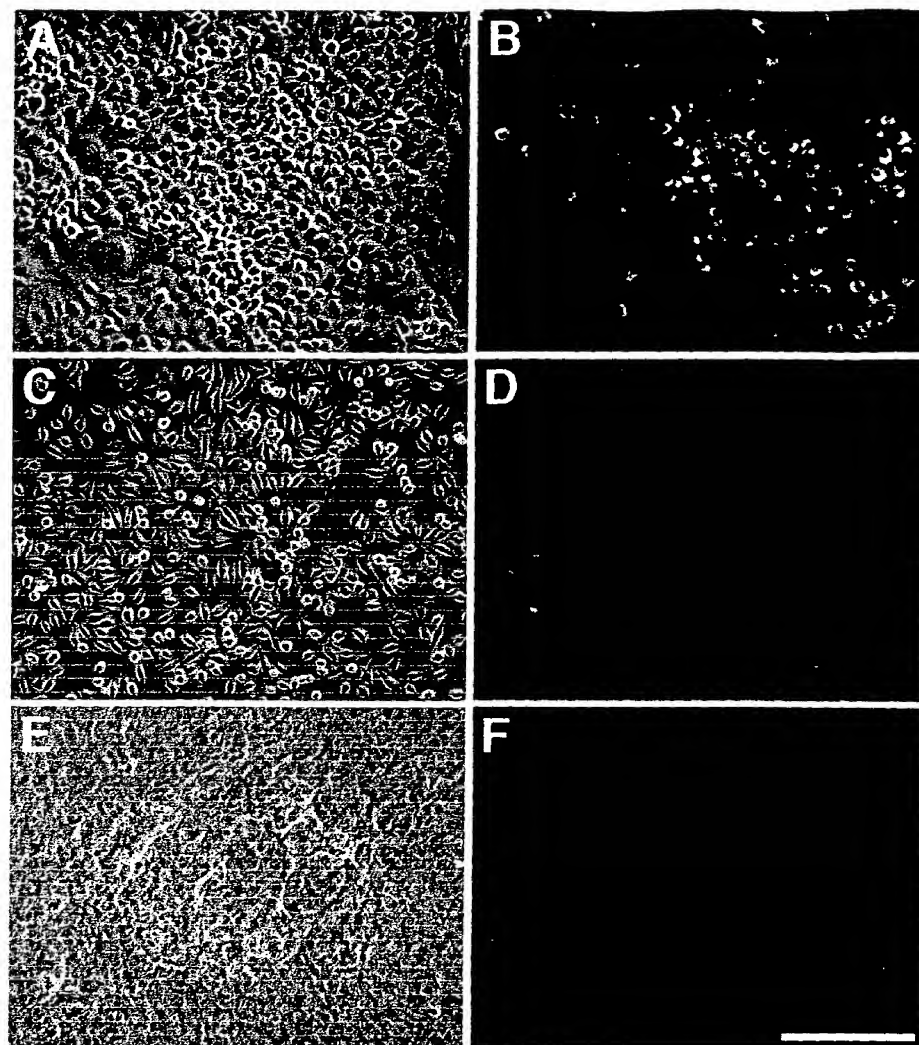


FIG. 15



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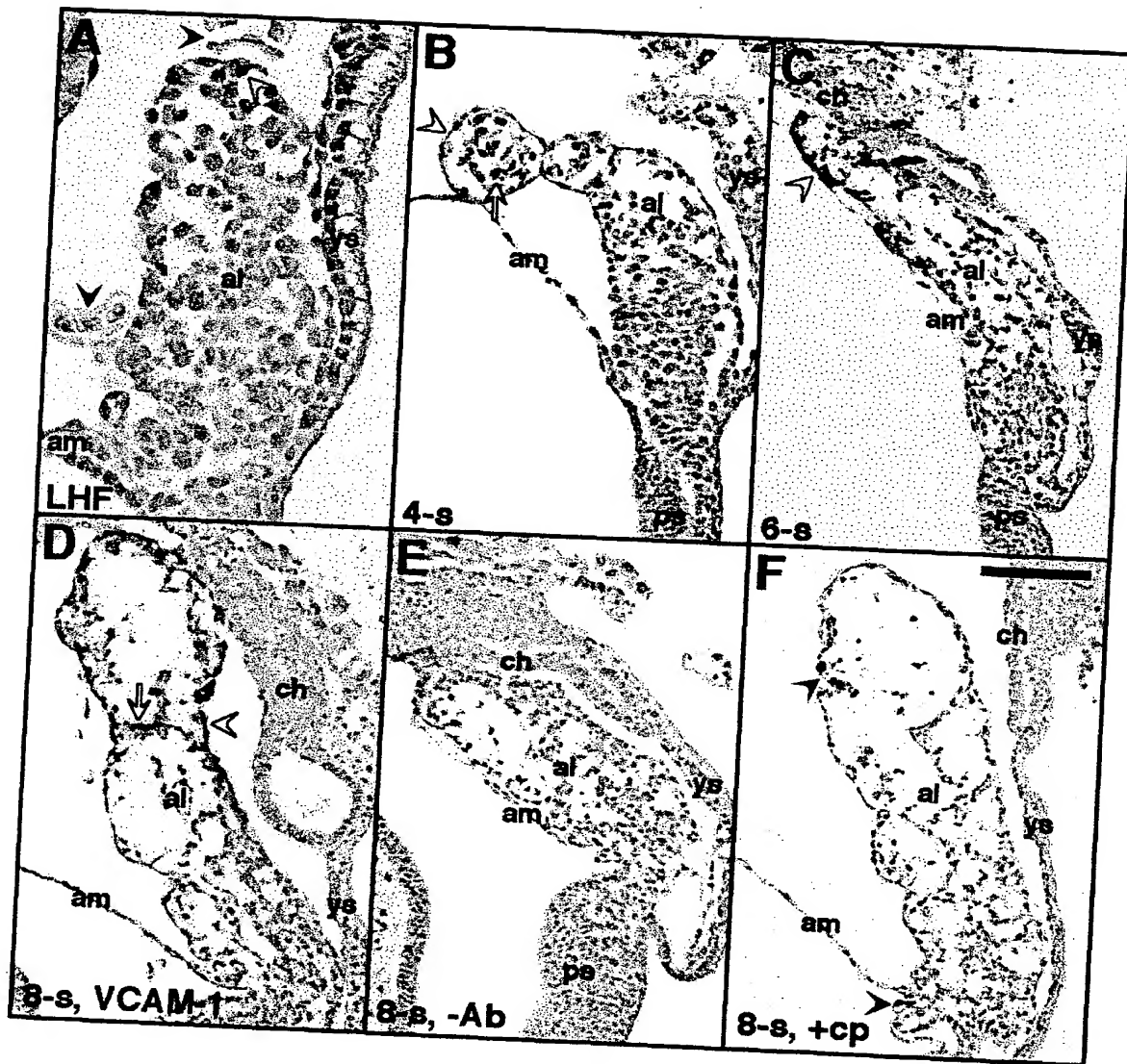


FIG. 17

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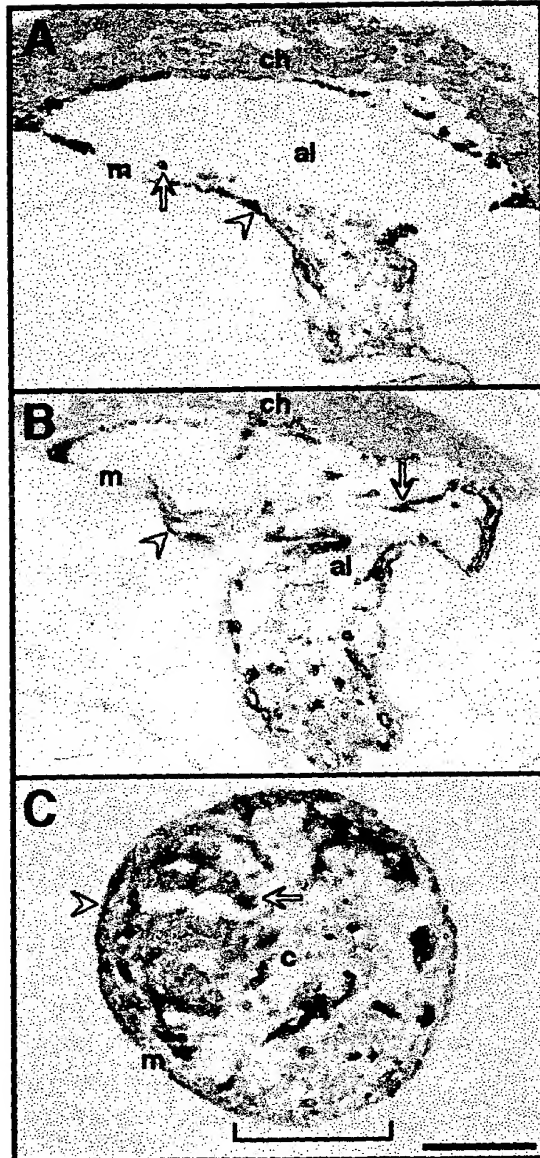


FIG. 18

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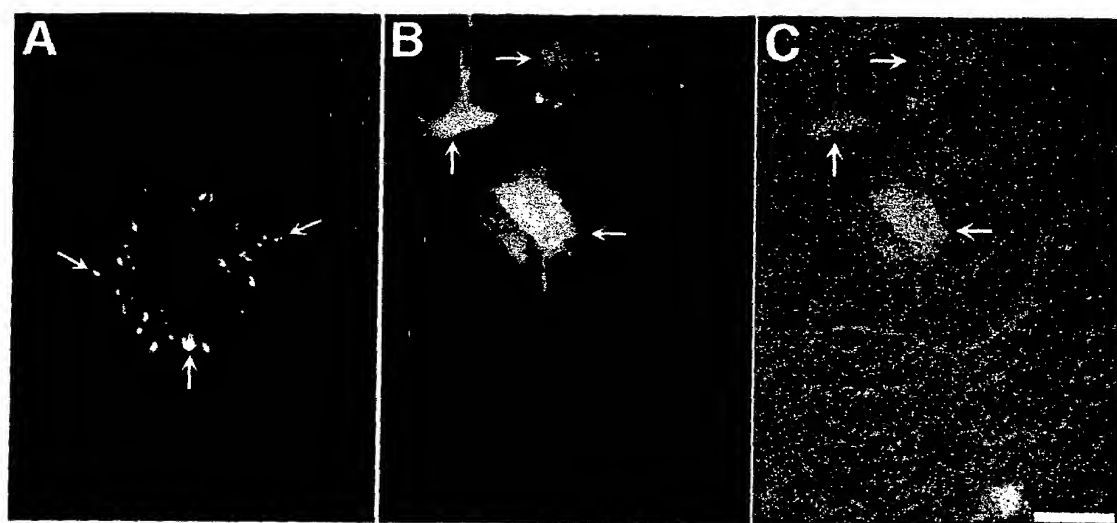


FIG. 19